

I claim:

1. A method for providing mutual exclusion for a resource by a first process in a computer system having a plurality of processes, the method comprising:

5 receiving an inquiry from a second process inquiring whether said first process owns said resource;  
determining an owner process for said resource other than said first process; and  
creating a lock for said resource indicating said owner process.

10 2. The method of claim 1, wherein determining the owner process for the resource other than the first process comprises:

determining that the first process is not the owner process; and  
determining thereby that the second process is the owner process.

15 3. The method of claim 1, wherein determining the owner process for the resource other than the first process comprises:

receiving an owner notification message from the second process identifying the owner process.

20 4. The method of claim 3, wherein the owner notification message identifies the second process as the owner process.

5. The method of claim 3, wherein the owner notification message identifies a third process as the owner process.

25 6. The method of claim 1, wherein determining the owner process for the resource other than the first process comprises:

receiving an inquiry response from a third process indicating that said third process is not the owner process; and

determining thereby that the second process is the owner process.

- 5 7. The method of claim 1, wherein determining the owner process for the resource other than the first process comprises:

receiving an inquiry response from a third process identifying said third process as the owner process.

8. The method of claim 1, wherein the lock comprises:

a resource identifier; and

a home field identifying the owner process.

9. The method of claim 1, further comprising:

determining that the first process requires access to the resource;

identifying the owner process using the lock; and

sending a request message to the owner process requesting access to the resource without first sending an inquiry message to the owner process.

- 20 10. The method of claim 9, wherein identifying the owner process using the lock comprises:

finding the lock among a plurality of locks based upon a resource identifier; and

obtaining the owner process from the lock.

11. A device for providing mutual exclusion for a resource, the device comprising:  
a first process operably coupled to receive an inquiry from a second process inquiring  
whether said first process owns said resource;  
resource ownership determination logic operably coupled to determine an owner process  
5 for said resource other than said first process; and  
lock creation logic responsive to the resource ownership determination logic and operably  
coupled to create a lock for said resource indicating said owner process.
12. The device of claim 11, wherein the resource ownership determination logic is operably  
coupled to determine that the first process is not the owner process and determine thereby that the  
second process is the owner process.
13. The device of claim 11, wherein the resource ownership determination logic is operably  
coupled to receive an owner notification message from the second process identifying the owner  
process.
14. The device of claim 13, wherein the owner notification message identifies the second  
process as the owner process.
- 20 15. The device of claim 13, wherein the owner notification message identifies a third process  
as the owner process.
16. The device of claim 11, wherein the resource ownership determination logic is operably  
coupled to receive an inquiry response from a third process indicating that said third process is not  
25 the owner process and determine thereby that the second process is the owner process.
17. The device of claim 11, wherein the resource ownership determination logic is operably

coupled receive an inquiry response from a third process identifying said third process as the owner process.

18. The device of claim N, wherein the lock comprises:

5 a resource identifier; and  
a home field identifying the owner process.

10 19. The device of claim 11, further comprising resource access logic operably coupled to determine that the first process requires access to the resource, identify the owner process using the lock, and send a request message to the owner process requesting access to the resource without first sending an inquiry message to the owner process.

15 20. The device of claim 19, wherein the resource access logic is operably coupled to identifying the owner process by finding the lock among a plurality of locks based upon a resource identifier and obtaining the owner process from the lock.

- 10 21. A program product comprising a computer readable medium having embodied therein a computer program for providing mutual exclusion for a resource, the computer program comprising:  
5        a first process programmed to receive an inquiry from a second process inquiring whether said first process owns said resource;  
10        resource ownership determination logic programmed to determine an owner process for said resource other than said first process; and  
15        lock creation logic responsive to the resource ownership determination logic and programmed to create a lock for said resource indicating said owner process.
- 15 22. The program product of claim 21, wherein the resource ownership determination logic is programmed to determine that the first process is not the owner process and determine thereby that the second process is the owner process.
- 20 23. The program product of claim 21, wherein the resource ownership determination logic is programmed to receive an owner notification message from the second process identifying the owner process.
- 25 24. The program product of claim 23, wherein the owner notification message identifies the second process as the owner process.
- 25 25. The program product of claim 23, wherein the owner notification message identifies a third process as the owner process.
- 25 26. The program product of claim 21, wherein the resource ownership determination logic is programmed to receive an inquiry response from a third process indicating that said third process is not the owner process and determine thereby that the second process is the owner process.

27. The program product of claim 21, wherein the resource ownership determination logic is programmed receive an inquiry response from a third process identifying said third process as the owner process.

5 28. The program product of claim 21, wherein the lock comprises:  
a resource identifier; and  
a home field identifying the owner process.

10 29. The program product of claim 21, further comprising resource access logic programmed to determine that the first process requires access to the resource, identify the owner process using the lock, and send a request message to the owner process requesting access to the resource without first sending an inquiry message to the owner process.

15 30. The program product of claim 29, wherein the resource access logic is programmed to identifying the owner process by finding the lock among a plurality of locks based upon a resource identifier and obtaining the owner process from the lock.

31. A computer system comprising a plurality of processes sharing a resource, wherein a first process receives an inquiry from a second process inquiring whether said first process owns said resource, determines an owner process for said resource other than said first process, and creates a lock for said resource indicating said owner process.

5

32. The computer system of claim 31, wherein the first process determines the owner process for the resource other than the first process by determining that the first process is not the owner process and determining thereby that the second process is the owner process.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

33. The computer system of claim 31, wherein the first process determines the owner process for the resource other than the first process by receiving an owner notification message from the second process identifying the owner process.

15 16 17 18 19 20 21 22 23 24 25

34. The computer system of claim 33, wherein the owner notification message identifies the second process as the owner process.

35. The computer system of claim 33, wherein the owner notification message identifies a third process as the owner process.

20 21 22 23 24 25

36. The computer system of claim 31, wherein the first process determines the owner process for the resource other than the first process by receiving an inquiry response from a third process indicating that said third process is not the owner process and determining thereby that the second process is the owner process.

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

37. The computer system of claim 31, wherein the first process determines the owner process for the resource other than the first process by receiving an inquiry response from a third process identifying said third process as the owner process.

38. The computer system of claim 31, wherein the lock comprises:  
a resource identifier; and  
a home field identifying the owner process.
- 5 39. The computer system of claim 31, wherein the first process access the resource by  
identifying the owner process using the lock and sending a request message to the owner process  
requesting access to the resource without first sending an inquiry message to the owner process.
- 10 40. The computer system of claim 39, wherein the first process identifies the owner process  
using the lock by finding the lock among a plurality of locks based upon a resource identifier and  
obtaining the owner process from the lock.

Add  
A'